

canceled. The amendments find full support in the original specification, claims, and drawings. No new matter has been added. In view of the amendments and remarks that follow, reexamination, reconsideration, and a timely indication of allowance of claims 1-14 and 16-21 is respectfully requested.

The Examiner rejects claims 1-5, 7-10, and 13-21 under 35 U.S.C. 102(e) as allegedly anticipated by Opalka (U.S. Patent No. 6,259,699). The Examiner further rejects claim 6 under 35 U.S.C. 103(a) as allegedly unpatentable over Opalka in view of Miloslavsky (U.S. Patent No. 6,289,094). The Examiner also rejects claims 11 and 12 under 35 U.S.C. 103(a) as allegedly unpatentable over Opalka in view of Bonomi (U.S. Patent 6,219,352). Applicant respectfully traverses these rejections.

The Examiner relies on the disclosure of FIG. 13 of Opalka and contends that the buffers illustrated on the left hand side of the NxN memory connection buses reads on the first stage queue recited in claims 1, 13, and 21, and the buffers illustrated on the right hand side of the NxN memory connection buses read on the second stage queue recited in the claims. However, FIG. 13 of Opalka simply illustrates a traditional packet switch where data stored in an ingress (left hand side) buffer is switched by the NxN memory connection buses to an egress port and stored in an egress (right hand side) buffer. The right hand side buffer therefore stores the actual data to be transmitted via the physical layer module (PHY).

In marked contrast, claims 1 and 21 have been amended to recite "transmitting the packet-related data in the second state queue to a switch fabric for completing the communication of the data packet from the sending port to each determined destination port." Claim 13 has also been similarly amended to recite "a switch fabric coupled to the second stage queue, the switch fabric using the packet-related data in the second stage queue for transmitting the data packet to a destination port."

There is nothing in Opalka or in any of the other cited references that teaches or suggests that the right hand side buffer transmits packet-related data to a switch fabric. Any transmission of data by the right hand side buffer is to the PHY associated with the egress port. Accordingly, claims 1, 13, and 21 are now in condition for allowance.

Claims 2-12, 14, and 16-20 are also in condition for allowance because they depend on an allowable base claim, and for the additional limitations that they contain. With respect to claim 2, recited therein is the limitation that the packet-related data is a pointer to memory and a list of destination ports. The Examiner contends that such a limitation is met by the Header Lookup function disclosed in FIG. 13 of Opalka. Applicant respectfully disagrees. The Header Lookup function disclosed in Opalka does not correspond to the second state queue that is claimed in claim 1 used to store the packet-related data. Following the Examiner's reasoning that the right hand side buffer corresponds to the claimed second state queue, such right hand side buffer does not store pointers but the actual data to be transmitted by the egress port.

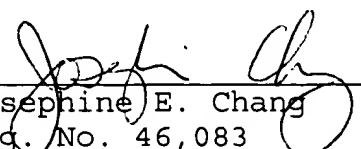
In view of the foregoing amendments and remarks, Applicant requests reexamination, reconsideration, and allowance of claims 1-14 and 16-21.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "Version with markings to show changes made."

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

1. (Amended) In a switching device, a method of communicating data packets from sending ports to destination ports, the method comprising:

storing in a first stage queue packet-related data from a sending port;

determining from the packet-related data which destination ports are to receive the packet-related data in the first stage queue;

storing in a second stage queue associated with each determined destination port the packet-related data from the first stage queue; and

transmitting ~~using~~ the packet-related data in the second state queue to a switch fabric for completing ~~to complete~~ the communication of the data packet from the sending port to each determined destination port.

11. (Amended) The method of claim 1 wherein the switch fabric is a ~~[switching device uses a]~~ shared memory switch fabric, and the transmitting comprises using ~~[for communicating data packets from sending ports to destination ports, and step of using the packet-related data in the second stage queue to complete the communication of the data packet from the sending port to each determined destination port comprises using]~~ the data to obtain a copy of the data packet from the shared memory switch fabric to complete communication of the data packet.

12. (Amended) The method of claim 1 wherein the switch fabric is a ~~[switching device uses a]~~ crossbar matrix, and the transmitting comprises using ~~[for communicating data packets from sending ports to destination ports, and the step of using the packet related data in the second stage queue to complete the communication of the data packet from the sending port to each determined destination port]~~

~~comprises using~~] the data to form connections in the matrix so as to communicate simultaneously a copy of the data packet from the sending port to each of the determined destination ports.

13. (Amended) In a switching device, apparatus for communicating data packets from sending ports to destination ports, comprising:

a first stage queue storing packet-related data from a sending port; ~~and~~

a second stage queue associated with each of a set of destination ports storing the packet-related data from the first stage queue; and  
[+]

a switch fabric coupled to the second stage queue, the switch fabric using the packet-related data in the second stage queue for transmitting the data packet to a destination port.

19. (Amended) The apparatus of claim 13 wherein the switch fabric is ~~[switching device use]~~ a shared memory switch fabric for communicating data packets from sending ports to destination ports.

20. (Amended) The apparatus of claim 13 wherein the switch fabric is ~~[switching device uses]~~ a crossbar matrix for communicating data packets from sending ports to destination ports.

21. (Amended) In a switching device, apparatus for communicating data packets from sending ports to destination ports, comprising: [+]

means for storing in a first stage queue packet-related data from a sending port;

means for determining from the packet-related data which destination ports are to receive the packet-related data in the first stage queue;

means for storing in a second stage queue associated with each determined destination port the packet-related data from the first stage queue; and

Application No. 09/166,343

means for transmitting [~~using~~] the packet-related data in the second stage queue to a switch fabric for completing [~~to complete~~] the communication of the data packet from the sending port to each determined destination port.